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THE CHARGE FOR RAILWAY MAIL CARRIAGE.

IN no year since 1884 have the receipts of the Post-Office Department equaled the expenditures. In recent years the annual deficiencies have become so great as to engage the serious attention of Congress and the public. It is generally held that as the Post-Office Department is nothing more than a business institution it should be self-sustaining. The plans brought forth designed to wipe out the annual deficits fall under two heads. Most of those who have carefully investigated the cause of the recurring deficits, notably the postmasters-general and Mr. Loud, have favored the curtailment of the unusual privileges enjoyed by second-class mail matter. Another, and perhaps more numerous class of men, would put an end to the difficulties of the department by a radical reduction of the compensation given the railroads for carrying the mail.

The abuses of the cent-a-pound mailing privilege have been repeatedly set forth by Mr. Loud and the postmasters-general, and therefore need not be given again here. Those who would lop off a third or a half of the pay given the railroads contend that the railroads are receiving eight or eight and one half cents

per pound for transporting the mail.¹ This, on its face, is regarded as excessive. Leaving the question as to what may be considered fair compensation for later discussion, let us attempt to discover if the railroads do actually receive eight or more cents per pound for hauling each pound of mail passing through the Post-Office Department.

This statement of the rate of compensation has been widely accepted because it has been quoted as coming from the postmasters-general and other high officials of the government. So far as can be discovered, this statement of the rate of pay appears to have no other warrant than certain announcements of the postmasters-general and certain statements in a report of the House Committee on the Post Office and Post Roads, and a statement of Mr. Davis, appearing in a report of the Senate Committee on Appropriations, that could be misunderstood. In 1894 Postmaster-General Bissell said :

The total weight of all the mail matter dispatched in the mails of the United States during the year ending June 30, 1894, I *estimate* to be about 451,000,000 pounds The cost of *carrying* all this matter was \$36,207,-572, which gives an average of a small fraction over 8 cents a pound.²

In 1895 Postmaster-General Wilson, in calling attention to the great loss falling upon the department because of the cent-a-pound rate of postage on second-class matter, in a more guarded statement said : "the average cost to the department of *transporting* and *handling* this matter is estimated at 8 cents per pound."³ In 1896, when again discussing second-class matter, Mr. Wilson stated that "the mere cost of *transportation* of this matter is estimated at 8 cents a pound."⁴ And in the same year Mr. Loud, in reporting on the abuses of the cent-a-pound rate of postage stated, in behalf of the Committee on the Post Office and Post Roads, that :

¹ Sometimes they state the average number of miles each pound is carried ; but generally nothing is said about the length of the haul. This matter, which is of prime importance, is often neglected, as though it were of absolutely no moment.

² *Report of the Postmaster-General*, 1894, p. 33.

³ *Ibid.*, 1895, p. 31.

⁴ *Ibid.*, 1896, p. 7.

The cost of *transporting* and *handling* all mail matter averages 8½ cents per pound. Fourth-class matter . . . pays postage at the rate of 16 cents per pound, which is about double the cost of *transmission*. Third-class matter . . . pays postage at the rate of 8 cents per pound—about the cost of transmission.¹

While discussing the growth of second-class mail matter in 1897, Postmaster-General Gary said: “the cost to the government of *transmitting* the 365 million pounds of second-class mail matter *carried* during the past fiscal year [1897] is *estimated* at 29 million dollars,” or about 8 cents a pound; “the postal revenue received from it is estimated at three millions dollars, leaving a loss on *transportation* alone of 26 million dollars.”² In the spring of 1898 Mr. Madison Davis (of the office of) the third assistant postmaster-general, in a reply to a request from the general superintendent of the railway mail service, wrote:

I send you the following estimate of the average cost per pound of *transporting* matter in the mails for the last fiscal year. The total weight of mail matter of all kinds passing through the mails during the year is *estimated*, upon the basis of an accurate calculation made in 1890, to have been *about* 527,516,000 pounds.³ Dividing this total expenditure [\$42,186,975.78] by the number of pounds of matter, we see that the average cost per pound is about eight cents.⁴

Let us now examine these statements to see if they warrant the assertion that the railroads receive on the average 8 cents per pound for carrying the mail. Let us consider them seriatim. Postmaster-General Bissell, in 1894, stated that he *estimated* the total weight of all the mail matter dispatched in the mails of the United States, during the year ending June 30, 1894, to be *about* 451 million pounds. The cost of carrying all this matter was \$36,207,572, which gives an average of a small fraction over 8 cents a pound. Mr. Bissell does not say that the cost of transporting this matter on the *railroads* was \$36,207,572, or 8 cents per pound. He simply states, without specifying the manner,

¹ *House Report No. 260*, pp. 1, 2, LIV Congress, first session.

² *Ibid.*, 1897, p. 7.

³ This estimate does not include the government, that is, “franked” matter.

⁴ *Senate Report No. 991*, p. 115, LV Congress, second session.

that the cost of *carrying* this matter was as just given. By referring to his financial statement for the year, it will be found that but \$28,735,065¹ were expended upon railway transportation and not \$36,207,572. This would make the average pay 6.3 instead of 8 cents per pound, if the weight was as stated and the railroads carried it all.

Postmaster-General Wilson, in 1895, said in discussing second-class mail matter that "the average cost to the department of *transporting* and handling this matter is estimated at 8 cents per pound." Mr. Wilson did not state that the cost of *railway* transportation was 8 cents per pound. He did not even say that the cost of *transportation* was 8 cents per pound, but that the average cost of transporting and handling is *estimated* at 8 cents per pound. Mr. Wilson did not make the bald statement that it costs 8 cents per pound to transport and handle this matter, because he knew that the data in his possession would not warrant so positive an announcement. In his next report in directing the attention of the country to the enormous loss arising from the transmission of second-class matter at the low postage rate of 1 cent a pound, Mr. Wilson declared that "the mere cost of *transportation* of this matter is *estimated* at 8 cents a pound." The question at once arises as to what he means by "transportation." He certainly must have had in mind more than railroad transportation for the aggregate of the several forms of payment to the railroads was \$30,951,528.93.² The total weight of the mail—exclusive of the government or franked matter, which must have been in the neighborhood of 50 million pounds—was 512,977.326 pounds according to the figures of the Post-Office Department.³ If it be assumed that this was the amount transported by the railways, the average cost per pound for railway transportation was but 6 cents.

¹ *Report of the Postmaster-General*, 1894, p. 27. This sum includes all three forms of payment; (1) that made on the basis of weight, (2) for railway post-office cars, and (3) "special facility" pay.

² *Report of the Postmaster-General*, 1896, p. 39.

³ *Ibid*, pp. 7, 8.

Let us now pass on to the report presented by Mr. Loud in behalf of the House Committee on the Post Office and Post Roads. Speaking for this committee, Mr. Loud said, "the cost of *transporting* and *handling* all mail matter averages $8\frac{1}{2}$ cents per pound," and that the postage paid on fourth-class matter is 16 cents per pound, which is about double the cost of *transmission*, etc. While this statement may not be so explicit as could be desired, yet any one in search of the facts should not have fallen into the error of supposing that $8\frac{1}{2}$ cents simply covered the cost of railway transportation. Postmaster-General Gary said in 1897 that the cost to the government of *transmitting* the 365 million pounds of second-class mail matter *carried* during the past fiscal year is *estimated* at 29 million dollars, or about 8 cents a pound; "the postal revenue received from it is estimated at 3 million dollars, leaving a loss, on transportation alone, of 26 million dollars." This statement is almost too vague to criticise. If the second statement explains the first, the most that can be said is that the cost to the government of transporting 365 million pounds of mail matter, by all means of transportation that may have been employed, was 29 million dollars. It did not cost the government 29 million dollars to transport 365 million pounds of mail matter by rail. This could easily have been discovered by anyone ready to go to a little trouble to ascertain the truth. The total cost of railway transportation on the basis of weight alone was approximately 29 million dollars—accurately \$28,965,763—and the total of the three forms of payment to the railroads was \$32,490,056.¹ The weight carried on the railroads, however, greatly exceeded 365 million pounds which was but the weight of the second-class matter, according to the statistics compiled by the department itself.² "The total weight of the mail carried was 607 million pounds," said Mr. Loud in discussing this point in the House of Representatives.³ If it be assumed that all this mail was carried by the railroads during some portion of its jour-

¹ *Report of the Postmaster-General*, 1897, p. 16.

² *Ibid.*, p. 7.

³ *Congressional Record*, LV Congress, second session, p. 3328.

ney, the cost for railroad transportation, the three forms of payment being included, was but 5.3 cents per pound.

One statement yet remains to be examined; that made by Mr. Madison Davis to the general superintendent of the railway mail service. This is easy to explain because the facts are given upon which it is based. Mr. Davis said the average cost per pound of *transporting* matter in the mails for the fiscal year 1897 was about 8 cents per pound. Mr. Davis has not left us in the dark as to what he means by *transportation*. He gives the items of expenditure which he includes under the general head of mail transportation. They are as follows:¹

Railroad transportation	-	-	-	-	\$28,965,763.52
Special facilities on railroads	-	-	-	-	162,978.33
Star transportation	-	-	-	-	5,322,484.86
Steamboat transportation	-	-	-	-	401,262.95
Electric and cable car transportation	-	-	-	-	139,734.81
Mail-messenger service	-	-	-	-	951,624.29
Wagon service	-	-	-	-	705,260.25
Mail bags and catchers	-	-	-	-	343,324.59
Mail locks and keys	-	-	-	-	41,964.13
Repair shop for mail bags	-	-	-	-	7,749.24
Railway postal-car service	-	-	-	-	3,361,313.76
Transportation of foreign mails	-	-	-	-	1,703,515.05
Additional compensation to the oceanic steamship company	-	-	-	-	80,000.00
Total	-	-	-	-	\$42,186,975.78

Of these thirteen items of expenditure only three are for railroad transportation; several of them have nothing to do with transportation of any kind. Of the total expenditure of \$42,186,975.78 only \$32,490,056 can be assigned to railroad transportation.

We have now examined the original statements on the basis of which it has been asserted that the *railroads* receive on the average eight or eight and one half cents per pound for transporting the mail, and have found that the statements quoted do not warrant the assertions.

¹ *Senate Report No. 991*, p. 115, LV Congress, second session.

DO THE RAILROADS RECEIVE EIGHT CENTS PER POUND FOR CARRYING MAIL AN AVERAGE DISTANCE OF 328 MILES ?

In making certain comparisons it is often asserted that the railroads receive on the average eight cents per pound for carrying mail an average distance of 328 miles. This differs from the statement just examined in that it attempts to state the average distance each pound of mail is carried. It represents an advance on the previous statement for it looks upon the haul as a matter of too great importance to be wholly disregarded. In the consideration of this contention our investigation will take a wider range than in the examination just concluded. Up to this point I have merely shown that certain official statements often cited have been grossly misused. Now I shall go a step further. Certain data furnished by the Post-Office Department will be valued and the methods employed in making certain estimates and averages will be analyzed. It will be shown what statistics furnished by the department rest upon actual observation, and what do not. By this is meant that if the statistics have to do with weight, an attempt will be made to show to what extent they are based upon weighings; if they have to do with the distance mail is carried to what extent they are based upon actual tests of the distance mail matter is sent. In the course of this investigation it may appear that often statistics furnished by the Post-Office Department, and announced simply as estimates, are presented by other parties to the public as absolute data.

Let us now examine the statement that the railways receive on the average eight cents per pound for carrying the mail an average distance of 328 miles. What facts does it presuppose? Obviously the following data must be at hand: (1) the amount of matter carried by the railroads; (2) the average distance it is carried; and (3) the amount paid the railroads for rendering the service. It is respectfully submitted that the Post-Office Department does not possess accurate data on the first two heads and that it does not pretend to, and if the facts are not in the possession of the department no one else can have them.

I. THE WEIGHT OF THE MAIL CARRIED.

Attention is first invited to the amount of matter in the aggregate actually carried by the railroads. That is, how many pounds of mail, each piece counting but once, are carried by the railroads in the course of a year? The post-office officials cannot give this information. They do not possess it. They do not even know with any degree of accuracy the amount of mail matter that passes through the mails in a year. But, in spite of this fact, many persons who have discussed the compensation received by the railroads have stated with assurance the exact amount of matter handled by the department by years since 1880.

In 1886 Postmaster-General Vilas said, in comparing the growth of our mail matter with that of other countries, "No statistical account is maintained in the United States of the quantity in weight or number of pieces, of our domestic mails;"¹ and then ventured nothing more than the general statement, "but, from the number of postal cards, stamps, and pieces of stamped paper sold to the public, it may be unquestionably affirmed that the mail matter handled by our postal service greatly outweighs and outnumbers that of any other postal system." In 1887 we find this statement in the report of the postmaster-general: "As I have before observed, it is difficult to state *with any degree of exactness* the annual tonnage of the United States mail carried on all the railroads in the United States."² Here it was again expressly acknowledged that no exact information was at hand as to the weight of the mail carried by the railroads. When Mr. Wanamaker became postmaster-general he was very much hampered by the lack of trustworthy information of the volume of the business done by the department. He made the first attempt to ascertain the count and weight of the mail. An account of what he did will be inserted in his own words:

For important statistical purposes the department has been at a loss for reliable data as to the number of pieces and *weight* of matter passing through the mails and the amount of revenue derived from each of the several

¹ *Report of the Postmaster-General*, 1886, p. 4.

² *Ibid.* 1887, p. 399.

classes of matter. For reasons involving the quickest possible dispatch of the mails it is impracticable to take a continuous account of the matter mailed. But a count of mail matter was ordered at all post offices in the country for the seven consecutive days beginning at six o'clock A.M. on the 5th of May, and ending at six o'clock A.M. on the 12th of May. . . . The instructions enjoined the utmost care upon the postmasters in making accurate reports. The week selected was believed to be a fairly average period upon which to estimate the total business for the year.¹

Upon the basis of this weighing the weight of the whole year was estimated. Since 1890 no actual test has been made of the weight of the matter passing through the mails. The statements made are merely estimates based upon Mr. Wanamaker's actual test. As late as December 1897, when called upon for a statement by the general superintendent of the railway mail service, Mr. Madison Davis, who has charge of these statistics, replied: "The total weight of mail matter of all kinds passing through the mails during the year [1897] is *estimated*, upon the basis of an accurate calculation made *in 1890*, to have been about 527,516,000 pounds."² It has been pointed out by Mr. Loud, chairman of the Committee on Post Office and Post Roads of the house, that this estimate *does not* include the government matter. He estimates all the matter at 607 million pounds.³

From this statement it appears that the test made by Mr. Wanamaker in 1890 for a single week is still the basis of the estimates made of the amount of mail passing through the department. At this point two questions naturally arise: (1) Was the week selected an average week? (2) was the test well conceived and thoroughly executed?

Let us consider the first point raised — was the week selected an average week? This is a difficult question to answer. It can, however, be stated with assurance that we have no positive information that it was. To obtain an average the factors forming the average must be at hand, but they were not in this case. The field is so large and the volume of the business is so great

¹ *Report of the Postmaster-General*, 1890, p. 50.

² *Senate Report No. 991*, LV Congress, second session, p. 115.

³ *Congressional Record*, LV Congress, second session, p. 3328.

that it seems perfectly safe to say that it is impossible for any man or set of men to fix upon a week and to say this is an average week. As the test began at six o'clock on the 5th of May an average number of the magazines were not carried; for the magazines of large circulation are mailed so as to arrive at their destination before the first of the month. I have been informed by railway mail clerks that the period during which the mails are swelled by the magazines is very clearly marked. They begin moving about the twentieth of each month and in a few days reach their maximum movement and quite disappear by the last of the month — a few appearing as late as the third of the new month. A test, to be at all representative, must extend over at least a month. This has been fully recognized by Congress. In the act of 1873 fixing the rates of compensation to the railroads for carrying the mail it is stated that the weight shall be determined by *actually* weighing the mail for not less than thirty successive working days. Even with this period of actual weighing the railroads sometimes feel dissatisfied.

Was the test well planned and thoroughly executed? No account was taken of the mail received in this country from foreign lands. The volume of this mail is now very great, and a large portion of it is hauled across the continent.¹ The test was not satisfactory for another reason. The postmasters were informed that the trial should not be allowed to delay the transmission of the mail. As a result, during the busiest hours, the weight of the mail was not obtained by actual weighings. The weights for these hours, which it was especially desirable to have as accurate as might be, were merely estimates.

In the light of the facts that have been presented, of what value are tables giving the amount of mail passing through the mails since 1880? Obviously these tables are not to be regarded as absolute data. At best, they can be considered nothing more than rough estimates. And apparently they are regarded as such by the Post-Office Department. If the weight

¹ *Report of the Postmaster-General*, 1890, pp. 51 and 52. He does include the amount of matter sent to foreign countries from the United States.

of the mails is not known it cannot be stated that the railroads receive eight cents per pound for carrying the mail.

II. AVERAGE DISTANCE MAIL IS CARRIED.

On page 151 it was stated that it was manifestly necessary to have the following data to tell how much the railroads received per pound for carrying the mail an average distance of 328 miles: (1) The weight of the matter, (2) the average distance, and (3) the pay received. We have already examined the data falling under the first head, and may now direct our attention to the statistics we have under the second head. So far as I can discover, but one serious attempt has been made to ascertain the average distance each pound of mail is carried, and that was limited in scope and of short duration. In 1876 Postmaster-General Jewell, in advocating graduated rates of postage, on the basis of distance, to apply to certain kinds of mail matter, said:

In order to arrive at any distinct conclusion regarding the rates that should prevail for the different distances, it is necessary to have the different proportions of mail destined for different distances. That their weight might be had, a report was asked for from a number of the largest offices in the country, giving the weight of the different classes of mail going to the different states during three days, and the distances to each and all states were averaged.¹

This computation showed that the average distance the mail was then carried was 813.5 miles.² No other test equally

¹ XLIV Congress, first session, *Senate Miscellaneous Document No. 51*, p. 2.

² The tabulated results were as follows:

Weight in pounds	Distance miles	
41,087 going - - - - -	0 to 300	Average distance the mails were carried, 813½ miles
13,494 " - - - - -	300 " 600	
15,881 " - - - - -	600 " 900	
13,586 " - - - - -	900 " 1,200	
5,528 " - - - - -	1,200 " 1,500	
1,269 " - - - - -	1,500 " 1,800	
2,099 " - - - - -	1,800 " 2,100	
1,378 " - - - - -	2,100 " 2,400	
576 " - - - - -	2,400 " 2,700	
703 " - - - - -	2,700 " 3,000	
5,817 " - - - - -	over " 3,000	

101,418

thorough has since been made. In 1889 Postmaster-General Wanamaker made a test in forty offices,¹ and found that the average distance each *piece* of mail was carried was 442 miles. A glance, however, at the following table,² which presents a summary of the results of the forty offices, will show that the average distance each *pound* was hauled was much greater than 442 miles. This follows from the fact that his is a weighted average

RECAPITULATION OF THE FORTY OFFICES.

	Number of pieces	Number of pounds	Average number of miles each piece was carried
1. Letters	3,382,571	69,849	386
2. Postal-cards	528,076	2,772 $\frac{5}{10}$	339
3. Wrapped parcels under seal at letter rate ...	8,907	2,776 $\frac{1}{4}$	430
4. Third-class matter	1,962,925	242,447	558
5. Fourth-class matter	101,326	42,819	599
	5,983,905	360,663 $\frac{3}{4}$	442

on the basis of the pieces handled, while what is wanted is a weighted average on the basis of the pounds handled. The table shows that of the total 360,663 pounds handled, the average distance that each piece of the 242,447 pounds of third-class matter was carried, was 558 miles, and that the average distance that each piece of the 42,891 pounds of fourth-class matter was carried was 599 miles. The table also shows that the average distance the 3,382,571 letters were carried was but 386 miles, and the average distance the 528,076 postal-cards were carried was only 339 miles. In brief, the matter of numerous pieces was short-distance mail, and therefore a weighted average based upon pounds would show a larger average distance than one based upon pieces. This test was faulty for still other reasons—it does not include second-class and franked

¹ His experiment was tried in ten of the principal offices of each of the four classes.

² *Report of the Postmaster-General*, 1898, p. 90.

matter.¹ If the table were still of any value in showing the average distance each pound of mail is carried, these omissions, it must be admitted, completely destroy it, for second-class matter is long-distance mail, and almost equals in weight all the other classes combined.² Now, if the weight of the second-class matter was about equal to that of all other matter combined, and if almost the whole of it was long-distance matter, and this is generally conceded, had this class been included in the test it would have greatly raised the average distance each pound of mail was carried.

As has been stated, franked matter was also not included in the test. This, even to a greater extent than second-class mail, is upon the whole long distance business. Here the general rule that people communicate most with people near at hand does not hold good, and for the obvious reason that the friends of each congressman are in his own district.

One attempt to ascertain the average distance each pound of mail is carried still remains for examination. This differs radically from the others. It does not rest upon actual observation, but on a series of computations based upon estimates. In the language of its author it is as follows :

An *estimate* by the third assistant postmaster-general gives an average weight per day of 1,447,671 pounds of mail, which added to an *estimated* weight of 153,729 pounds of equipment, amounts to 1,601,400 pounds.

The railway adjustment division gives, as carried by railroad lines per day, 7,846,851 pounds. Therefore 1,601,400 pounds is reweighed as many times as it is contained in 7,846,851 pounds — 4.9 — which must necessarily be the average number of routes a pound of mail passes over before it reaches destination.

* * * * * * * *

There are 2,587 railroad routes in the United States, and the total number

¹ *Ibid.*, pp. 32 to 90.

² This statement is based on the test made for one week in 1890, of the different classes of matter mailed in the United States, and to which I have already referred. As I hold that this test did not show the average amount of second-class matter handled I believe it may be asserted that the weight of the second-class matter fully equals all the other forms of postal matter combined, including the free and franked matter.

of miles of these routes is 173,256. Therefore the average length of a route is 173,256.14 miles divided by 2,587 routes or 66.97 miles.

As above stated, 1 pound of mail is carried over 4.9 routes, and each route averages 66.97 miles, which makes 328 miles as the average haul of a pound of mail.¹

Let us examine first the data and then the method by which this result was obtained. Attention has already been directed to the fact that the Post-Office Department has no data that can be regarded as satisfactory of the total amount of mail matter handled each day; and therefore it was very properly stated in the demonstration, that it was estimated that the average weight handled per day was 1,601,400 pounds. It was also said in the demonstration that "the railway adjustment division gives, as carried by the railroad lines per day, 7,846,851 pounds." This sum does not represent the total amount of mail carried by the railroads. The weight actually carried by all the railroads is considerably in excess of the amounts announced by the department. This follows, because the departmental statements of weight carried are always those ascertained at the previous weighings, which may have been made more than four years before, and therefore generally fall far short of the weight actually carried. Now, as the premises of the demonstration cannot be accepted, the deduction that on the average each pound of mail is carried on 4.9 routes cannot be accepted. The second average is above criticism; the department has actual information of the number of post routes and their mileage, and can therefore obtain the average length of the routes.

The data used in ascertaining the average 328 miles have now been examined and the method of finding the average distance each pound of mail is carried may now be considered. The method cannot be accepted. And for the very obvious reason that the relative importance of the routes, from the standpoint of the weight carried, is absolutely neglected. It is generally known that upon the whole the short routes are the light routes, and the long routes are the heavy routes, and that therefore the

¹ *Senate Reports No. 991*, p. 146. LV Congress, second session.

value of the long routes is increased by reason of the heavy mails that pass over them, while that of the short routes is diminished because of the light mails that pass over them.

All the data necessary for the employment of the proper method of determining the average distance each pound of mail is carried were at hand.¹ The number of pounds of mail matter (each piece counting but once) handled in the mails each day, and the average number of pounds of mail carried over the whole length of each railroad postal route in the United States each day, and the length of these routes, were all the facts needed. With the length of the routes and the average number of pounds carried over the whole length of each route each day, the total number of miles one pound was carried could be obtained, and by dividing this by the number of pounds turned over to the railroads, the average distance each pound was carried could have been ascertained.

To make absolutely clear what I have stated I shall resort to a simple illustration showing the method which was employed to obtain the average distance each pound of mail is carried and

Routes	Average weight of mail carried over entire route per day	Length of route	Number of miles one pound is carried
	Pounds	Miles	
A.....	10	10	100
B.....	100	50	5,000
C.....	200	100	20,000
D.....	300	200	60,000
E.....	1000	500	500,000
Totals.....	1610	800	585,100

then the method I hold should have been adopted. Let us suppose that there are but five postal routes in the United States, which are represented by the letters of the first column of the subjoined table, that they carry the weights indicated in the second column their full length each day, and that they have

¹ Some of these data have been criticised, but as they were all used in determining the average distance mail is carried by the faulty method, there appears to be no reason why they could not have been employed in determining the average distance by the proper method.

the lengths indicated in the third column. Let us further suppose that 805 pounds of new matter are thrown upon the railroads each day. At this point the author of the demonstration cited would say, "as the weights carried on all the routes amount to 1610 pounds, and the new matter was but 805 pounds, each pound must have been carried over two routes." He would go on to state that "there are five railroad routes in the United States, and that the total number of miles of these routes is 860. Therefore the average length of a route is 860 miles divided by five routes or 172 miles." And he would continue: "As above stated one pound of mail is carried over two routes, and each route averages 172 miles, which makes 344 miles as the average haul of a pound of mail."

My own method differs radically from this. By multiplying the number of pounds carried over each route by the length of the route I obtain the number of miles one pound is carried. These results are given in column four. By adding these products I find that the work done on the five routes was equivalent to carrying one pound 585,100 miles. Now, as by hypothesis 805 pounds of mail were carried on these five routes, we have simply to divide 585,100 by 805 to discover the average distance each pound was carried. This operation gives 726.7 miles, or more than twice the distance obtained by the former method. The importance of considering the weight of the mails carried as well as the length of the routes is perhaps sufficiently emphasized by this illustration.

The discussion of the contention that the railroads receive on an average eight cents per pound for carrying the mail an average distance of 328 miles is now finished. And it is believed the following propositions have been established: (1) that the reports of the government officials do not warrant the statement of the rate of pay commonly announced; (2) that the total weight of mail, each piece counting but once, handled by the Post Office Department in a year is not known; and (3) that the average distance each pound of mail is carried is not known.

GEORGE G. TUNELL.